



UNIVERSITI PUTRA MALAYSIA

**INTERVENTION POLICIES AND MARKET INTEGRATION:
A CASE OF THE RICE MARKETS IN BANGLADESH**

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**INTERVENTION POLICIES AND MARKET INTEGRATION:
A CASE OF THE RICE MARKETS IN BANGLADESH**

By

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LIST OF ABBREVIATIONS

ADP	: Annual Development Plan
BBS	: Bangladesh Bureau of Statistics
BRRI	: Bangladesh Rice Research Institute
BDT	: Bangladesh Taka
BIDS	: Bangladesh Institute of Development Studies
FPMU	: Food Planning and Monitoring Unit
AMD	: Agricultural Marketing Department
GOB	: Government of Bangladesh
IRRI	: International Rice Research Institute
MV	: Modern Variety
PFDS	: Public Foodgrain Distribution System
RDAK	: Retail Price of Rice in Dhaka
RBAR	: Retail Price of Rice in Barisal
RMYM	: Retail Price of Rice in Mymensingh
RCHI	: Retail Price of Rice in Chittagong
RRAN	: Retail Price of Rice in Rangpur
RBOG	: Retail Price of Rice in Bogra
RDIN	: Retail Price of Rice in Dinajpur
RRAJ	: Retail Price of Rice in Rajshahi
RPAT	: Retail Price of Rice in Patuakhali
RSYL	: Retail Price of Rice in Sylhet
WDAK	: Wholesale Price of Rice in Dhaka
WBAR	: Wholesale Price of Rice in Barisal



WMYM : Wholesale Price of Rice in Mymensingh
WCHI : Wholesale Price of Rice in Chittagong
WRAN : Wholesale Price of Rice in Rangpur
WBOG : Wholesale Price of Rice in Bogra
WDIN : Wholesale Price of Rice in Dinajpur
WRAJ : Wholesale Price of Rice in Rajshahi
WPAT : Wholesale Price of rice in Patuakhali
WSYL : Wholesale Price of Rice in Sylhet
UNDP : United Nations Development Programme
USAID : United States Agency for International Development



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April, 1993

Chairman : Associate Professor Dr. Roslan A. Ghaffar

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Rice plays an important role in the economy of Bangladesh. However, the current poor state of the rice sector is of great concern to the government. The efficient functioning of the marketing system is severely constrained by the role of the beneficiaries. The consequences are high marketing margin and price instability. Any attempt at seeking appropriate measures to be adopted in order to achieve and sustain a coherent and comprehensive marketing system calls for an indepth study of two major aspects; the effects and implication of the government intervention on the rice market and the nature of integration and price relationship among the various rice markets in the country. The focus of this thesis lies on these two important issues related to rice markets in Bangladesh.

A standard partial equilibrium approach was carried out to measure the effects of the government intervention on the rice



market. Various parameters such as welfare gain of the producers and consumers, changes in the government revenues and foreign exchange bill were estimated. The results indicated that from the existing policy regimes, the benefit of government intervention mostly went to the consumers. Moreover, the measures could not provide enough incentive to the producers towards enhanced foodgrain production.

Secondary data covering the period from 1972 to 1987 were used to assess the degree and the nature of market integration between the central market and the other nine district level rice markets. Analysis by correlation method reflects the strong association among the rice markets. The results obtained from the Ravallion approach indicate that the central market price exhibits price leadership over the other local markets. The hypotheses of the long run integration and the absence of the local market characteristics were accepted while those of short run integration and market segmentation were rejected. Granger causality test indicated the existence of unidirectional and instantaneous relation of the central market with the local ones.

In order to increase the efficiency of rice markets of Bangladesh, the government should consider the above findings as realistic guidelines to ensure factors such as attainment of a high level of coordination among the production and

consumption centres, effective price monitoring in the central market, improvement of communication facilities at the source of price information, availability of market information to the trading sectors and liberalization of the present regulations of the holding of rice stocks.

Abstrak tesis yang dikemukakan kepada Senat Universiti Pertanian Malaysia sebagai memenuhi syarat untuk mendapatkan Ijazah Doktor Falsafah.

**DASAR CAMPURTANGAN DAN INTEGRASI PASARAN:
KES PASARAN BERAS DI BANGLADESH**

Oleh

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Beras memainkan peranan penting dalam ekonomi Bangladesh. Walau bagaimapun, keadaan sektor beras kini yang tidak begitu baik sangat membimbangkan pihak kerajaan. Fungsi kecekapan ke atas sistem pasaran banyak bergantung kepada mereka yang memperolehi keuntungan. Kesannya ialah keuntungan pasaran yang tinggi dan tidak kestabilan harga. Sebarang percubaan untuk mencari pengukuran yang sesuai yang boleh digunakan untuk mencapai sistem pasaran yang berterusan dan koheran serta komprehensif, memerlukan kajian yang mendalam ke atas dua aspek yang penting: kesan-kesan dan implikasi ke atas penglibatan kerajaan ke atas pasaran beras dan jenis integrasi dan hubungan harga di antara berbagai jenis pasaran dalam negara. Fokus tesis ini adalah kepada dua isu penting tersebut berhubung dengan pasaran beras di Bangladesh.

Pendekatan separa-perseimbangan telah digunakan untuk mengukur kesan-kesan penglibatan kerajaan ke atas pasaran beras

Berbagai-bagai parameter seperti pemerolehan kebajikan oleh pihak pengeluar dan pelanggan, perubahan wang kerajaan dan pertukaran wang asing telah dianggarkan. Keputusan menunjukkan bahawa daripada rejim polisi yang sedia ada rata-rata pelanggan memperoleh keuntungan hasil dari penglibatan kerajaan. Tindakan-tindakan ini tidak dapat memberikan insentif yang mencukupi kepada pengeluar-pengeluar ke arah meningkatkan pengeluaran bahan-bahan makanan.

Data sekunder yang meliputi jangkamasa 1972-1987 digunakan untuk menilai tahap dan jenis integrasi pasaran di antara pasaran pusat dan lain-lain daerah pasaran beras. Analisis secara korelasi mengesahkan kewujudan kesatuan yang kuat dalam pasaran beras. Keputusan yang diperolehi daripada pendekatan Ravallion menunjukkan bahawa harga pasaran pusat mengawal lain-lain pasaran tempatan. Hipotesis integrasi jangka panjang dan ketiadaan ciri-ciri pasaran tempatan telah diterima manakala integrasi jangka pendek dan pembahagian pasaran telah ditolak. Ujian Granger menunjukkan kewujudan kaitan yang sehalu dan hubungan instantaneous di antara pasaran pusat dengan lain-lain pasaran tempatan.

Dalam usaha untuk meningkatkan kecekapan pasaran beras di Bangladesh, pihak kerajaan patut menimbang penemuan-penemuan di atas sebagai satu panduan yang realistik untuk memastikan ke semua faktor seperti pencapaian koordinasi yang tinggi di

antara pengeluaran dan pusat-pusat penggunaan, kawalan harga yang berkesan di pasaran pusat, pertambahan kemudahan-kemudahan komunikasi pada sumber maklumat harga, kewujudan pasaran maklumat ke atas sektor perdagangan, dan peraturan-peraturan yang liberal ke atas simpanan beras.

CHAPTER I

INTRODUCTION

Rice and the Agricultural Economy of Bangladesh

Growth in agricultural production is generally the most important source of income generation for the less developed countries. Moreover, increased and more specialized food crop production can provide greater income to producers only if markets can translate consumer demand for agricultural commodities into remunerative farmgate prices. At the same time, increasing urbanisation and landlessness impose severe pressure on marketed food supplies. Increased food availability will benefit consumers only if supplies can be delivered to markets at affordable prices.

The foodgrain market involves the flow of foodgrains from the producers to the consumers. The market requires two basic functions, the physical handling of the goods, and their allocation among intermediaries and the ultimate consumers in time, space and form. An efficient market ensures optimum performance of these functions by stabilising supplies, and maintaining an orderly flow of commodities and stable price transmission between producing and consuming centres (Moore *et al.*, 1973). This creates a favourable environment for the

producers to enjoy maximum sales opportunities for their marketable surplus of foodgrains which in turn motivates them to expand production. This indirectly benefits the consumers as well by increasing the total volume of product being marketed.

An efficient and responsive marketing system is thus an essential component in an environment conducive to economic growth. But most governments do little to augment growth in the marketing sector, rather they make investments in infrastructure, which are normally undertaken to serve other goals (Dieter, 1987). Moreover, when prices move so low or high that producer or consumer complaints become vocal, the degree of marketing efficiency often attracts the attention of policy makers (Abbott, 1962). Policy discussion then centers around whether marketing is best performed by the private traders or government agencies. For example, allegations of food marketing inefficiency that lead to high marketing margins are common in developing countries like Nigeria, India, Ghana, Malaysia and Philippines. In Bangladesh, such allegations against rice traders have been based on three types of malfunctions: excessive profits in private trade, exploitation by middlemen and itinerant merchants, and excessive inter-year and intra year price fluctuations (Ahmad, 1988; Qazi, 1989).

The concern about an inefficient marketing system is that it often results in inefficient use of resources. This is

embodied in wasteful marketing costs as well as qualitative and quantitative losses in the process of the creation of time, form and place utility of the products as commodity prices are generated within the framework of the marketing system (Drucker, 1958; Meyren, 1959). In an economy, prices perform the important functions of resource allocation, intersectoral income distribution and capital formation (Mellor, 1968). Therefore, unless a market structure ensures generation of efficient pricing, these three functions of price will be inefficiently performed. Market imperfections that create obstacles in the transmission of the magnitude and nature of changes in consumer demands to the various stages of the market channel and to the producers, will inhibit adjustment in a dynamic economy. This may put the producers at a disadvantage in getting remunerative prices for their products.

The research work carried out in this thesis focuses on the nature and implications of the government intervention and the degree of market integration and its impact on the marketing system of a country. In particular, the rice markets of Bangladesh will be taken as a case study. As a background information for the above analysis, the following sections will address the various aspects of the paddy and rice sector in Bangladesh as well as an analysis of the market environment to explain the behaviour of market prices for rice within the country. The discussion will be presented in two sections. The

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first, on the agricultural economy, includes factors such as the role of agriculture in the national economy, major crops and agricultural production and overall government policies and strategies in the agricultural sector. The second, on the Bangladesh rice economy, discusses the domestic rice supply and demand position, seasonality of rice production and price fluctuation, crop market relations and marketed supply of rice, rice market and distribution system, marketing margins, government rice policy and market intervention in the rice market. In fact, these are the factors along with their complex interrelationships that create the rice market environment in Bangladesh.

The Agriculture Sector in the National Economy

Agriculture is the mainstay of the Bangladesh economy. The agriculture sector includes crop production, fishery, livestock and forestry. It contributes 46 percent of the gross domestic product and 61 percent of the total employment (FADINAP,1987). Over 90 percent of all exports originate from this sector. Improvement of agriculture, therefore, benefits the largest number of people and a set-back in agriculture will affect the majority of the people. To give an example, a shortfall in foodgrain production will compel everyone to pay higher prices for food. The implication of this production for small and marginal farmers would be reduced availability from their own farms, and consequently their supplementing these needs through